IN THE CLAIMS:

Please amend claims 1, 3 and 21 and add new claim 24. Attached is a complete listing of the pending claims:

1. (Currently Amended) An implantable sensor system for taking readings from a patient in vivo, the sensor system comprising:

an implantable sensor having a distal end with a sensor tip for direct contact with patient fluids and a proximal end to anchor the implantable sensor within the patient;

a flush sleeve directed towards the sensor tip;

a rinsing fluid; and

a fluid conduit in fluid communication with the flush sleeve,

wherein the rinsing fluid received in the fluid conduit is used to spray the sensor tip, and

wherein the flush sleeve concentrically surrounds the implantable sensor around a substantially common axis, such that the sensor is within the flush sleeve.

2. (Previously Presented) The sensor system of claim 1, further comprising a connector fitting for supporting the implantable sensor within the patient.

3. (Currently Amended) The sensor system of claim 1, wherein the fluid conduit contains a septum and a protector sleeve, ~~and~~ wherein the septum is pierced by a needle injected into the patient to deliver the rinsing fluid into the fluid conduit, ~~a needle is used to pierce the septum to inject the fluid into the fluid conduit~~ and wherein the protector sleeve acts as a backstop to prevent the needle from penetrating the sensor.

4. (Previously Presented) The sensor system of claim 1, wherein the flush sleeve surrounds the implantable sensor in a tight fit connection.

5. (Previously Presented) The sensor system of claim 4, wherein the flush sleeve contains at least one one-way valve near the sensor tip.

6. (Previously Presented) The sensor system of claim 1, wherein the fluid conduit is located at a proximal end of the sensor.

7. (Previously Presented) The sensor system of claim 6, wherein the proximal end of the sensor is covered by a protector sleeve.

8. (Previously Presented) The sensor system of claim 2, wherein the sensor is plugged into the connector fitting, and the connector fitting is affixable internally to the patient.

9. (Previously Presented) The sensor system of claim 1, wherein the rinsing fluid is a saline solution.

10. (Previously Presented) The sensor system of claim 1, wherein the rinsing fluid contains an anti-coagulant.

11. (Previously Presented) The sensor system of claim 2, wherein the connector fitting is connected to a telemetry unit to transmit readings from the implantable sensor.

12-20. (Cancelled)

21. (Currently Amended) An implantable multi-lumen sensor system for taking readings from a patient in vivo, the sensor system comprising:

an inner lumen comprising an implantable sensor having a distal end with a sensor tip for direct contact with patient fluids and a proximal end to anchor the implantable sensor within the patient ~~in an inner lumen~~;

an outer lumen comprising a flush sleeve surrounding the inner lumen in a substantially coaxial manner, such that the inner lumen is within the outer lumen; and

a rinsing fluid received in the flush sleeve to spray the sensor tip.

22. (Previously Presented) The sensor system of claim 21, wherein the flush sleeve surrounds the inner lumen in a tight fit connection.

23. (Previously Presented) The sensor system of claim 22, wherein the flush sleeve contains at least one one-way valve near the sensor tip.

24. (New) The sensor system of claim 21, wherein the flush sleeve further contains a septum and a protector sleeve, wherein the septum is pierced by a needle injected into the patient to deliver the rinsing fluid into the flush sleeve, and wherein the protector sleeve acts as a backstop to prevent the needle from penetrating the sensor.